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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,245	08/27/2003	Wolfgang Grieskamp	3382-64897	7189
26119 7590 02/05/2008 KLARQUIST SPARKMAN LLP 121 S.W. SALMON STREET SUITE 1600 PORTLAND, OR 97204			EXAMINER DAO, THUY CHAN	
			ART UNIT 2192	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

AK

Office Action Summary**Application No.**

10/650,245

Applicant(s)

GRIESKAMP ET AL.

Examiner

Thuy Dao

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/14/07aq.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,10,11,17,19 and 30-37 is/are pending in the application.
- 4a) Of the above claim(s) 2,9 and 22-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,10,11,17,19 and 30-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on November 14, 2007 has been entered.

2. Claims 1, 3-8, 10-11, 17, 19, and 30-37 have been examined.

Response to Amendments

3. Per Applicants' request, claims 1, 3-5, 7-8, and 19 have been amended; claims 2, 9, and 22-29 have been canceled; and claims 30-37 have been added.
4. The objection to claims 1-6 is withdrawn in view of Applicants' amendments.
5. The objection to the specification is withdrawn in view of Applicants' amendments.

Claim Objections

6. Claims 3, 8, 19, 33, and 35-37 are objected to because of minor informalities.

Claim 3: the phrase in line 1 is considered to read as - -The computer readable medium of claim [[2]] 1 further comprising ...- - ;

Claim 8: the phrase in line 6 is considered to read as - -a state component comprising a representation of the first frame [[as a first-class citizen]]- -;

Claim 19: the phrase in lines 1-2 is considered to read as - -A [[computer readable]] computerized method [[comprising computer executable instructions for performing a method]] comprising: - - as similarly recited in claim 7;

Claim 33: the phrase in line 1 is considered to read as - -The computerized method of claim [[33]] 7 further comprising ...- -;

Claim 35: the phrase in line 1 is considered to read as - -The [[computer readable]] computerized method ...

[[A]] receiving a request from a fork method which saves ...;

[[A]] receiving a request from a set method which sets ...;

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[[A]] receiving a request from a join method which joins ...;

as similarly recited in claim 19;

Claim 36: the phrase in line 1 is considered to read as - -The [[computer readable]] computerized method of claim [[36]] 19 wherein ...- -; and

Claim 37: the phrase in line 1 is considered to read as - -The [[computer readable]] computerized method ...- -.

Specification

7. The amendments (page 2) to the specification has not been entered. The examiner respectfully requests the Applicants resubmit the amendments to the specification with correct page and line numbers. Currently, the corrections at different locations all direct to the same page 6, line 13 of the specification.

Appropriate correction is required.

Response to Arguments

8. Applicants' arguments have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections – 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 3-8, 10-11, 17, 19, and 30-7 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 6,295,640 to Eidt et al. (art made of record, hereinafter "Eidt").

Claim 1:

Eidt discloses a computer readable storage medium having computer-executable software code carried thereon for executing on a computing device saving state for a semantically accessible state binding method, comprising a data structure comprising:

a first state frame including a representation of a first state of an executing program (e.g., FIG. 6, state frame of Routine 600, col.7: 52 – col.8: 26)

a second state frame including a representation of a second state of the executing program comprising state changes made by the executing program after the first state frame is created (e.g., FIG. 6, state frame 652-654-656 of SubRoutine 610, wherein SubRoutine is called by Routine 600, col.8: 3-43) and

the second state frame includes a pointer back to the first state frame (e.g., FIG. 6, Stack Pointer 675, col.8: 55 – col.9: 4);

a third state frame including a representation of state changes made by the executing program after a fork method creates the third state frame, and the third state frame includes a pointer back to the second frame (e.g., FIG. 6, state frame 658-660, including Second Back Link 660 back to second frame 652-654-656; col.7: 14 – col.8: 26);

wherein the executing program saves a first state of the program in the first state frame as a semantically accessible first state object, saves a second state of the program in the second state frame as a semantically accessible second state object, and then returns to the first state of the program by using the first state object (e.g., FIG. 5, to return to the second state using (StackPointer \leftarrow Second Back Link) as a semantically accessible state object, return to first state as (if Back Link == null) \rightarrow (StackPointer \leftarrow saved return address of Routine 600), col.7: 14-26; col.8: 16 – col.9: 4; col.6: 32-45);

wherein the third state frame is empty when created by the fork method (e.g., col.6: 32-45; col.7: 14-26; col.8: 16-54); and

wherein, after the fork method creates the third state frame, value of a variable of the executing program can be accessed by checking, in backwards order that the frames were created, for the value of the variable in the respective frames (e.g., col.9: 18-58; col.10: 3-29; col.7: 14-26).

Claim 3:

The rejection of claim 1 is incorporated. Eidt also discloses *a fourth state frame which includes changes made by the executing program after the fork method creates the third state frame and after a set method returns the executing program to the state of the second state frame, and wherein the fourth state frame includes a pointer back to the second state frame (e.g., col.3: 46 – col.4: 28; col.4: 46-62).*

Claim 4:

The rejection of claim 3 is incorporated. Eidt also discloses *a joined state frame including a combination of state changes in the third and fourth state frames (e.g., col. 6: 32 – col.7: 50; col.8: 16 – col.9:4).*

Claim 5:

The rejection of claim 3 is incorporated. Eidt also discloses *a first thread of the executing program makes state changes copied in the second state frame, and a second thread of the executing program makes state changes copied into the third state frame (e.g., col.4: 29-46; col.7: 51 – col.8: 54).*

Claim 6:

The rejection of claim 1 is incorporated. Eidt also discloses *the second state frame includes unchanged state read from the first state frame (e.g., col.4: 62 – col.5: 38; col.10: 30 – col.11: 21).*

Claim 7:

Eidt discloses *a computerized method comprising:*

receiving a request to create a state save (e.g., FIG. 5, col.7: 52 – col.8; 26)

in response to the request, saving a first representation of a state of an executing program comprising copying state of the program required to return to the

moment the state was saved as a first state frame (e.g., col.8: 55 – col.9: 4; col.7: 14-26);

creating a blank state frame with a backward link to the first state frame as a current state frame (e.g., col.6: 32-45; col.7: 14-26; col.8: 16-54);

maintaining a second representation of subsequent state comprising changes made to the state of the executing program after the first representation in the current state frame (e.g., col.7: 14 – col.8: 26; col.8: 3-43); and

in response to a request for value of a variable after the request to create a state save, checking for the value of the variable in the first state frame (e.g., col.7: 14-26; col.8: 15 – col.9: 4; col.10: 3-23); and

changing the current state frame to the first state frame upon receiving a state set request at the application programming interface (e.g., col.9: 18-58; col.10: 3-29; col.7: 14-26).

Claim 8:

Eidt discloses a computer system comprising memory and a central processing unit executing (e.g., col.3: 46 – col.4: 28),

a program including executable instructions and an evolving present state; a first frame comprising an initial representation of a prior evolving present state of the program (e.g., col.7: 52 – col.8: 26),

a state component comprising a representation of the first frame (e.g., col.7: 14-26; col.8: 55 – col.9: 4; col.10: 3-23),

a second frame comprising a subsequent representation of state changes made by the program since the initial representation (e.g., col.8: 3-43)

the program including a method for returning the program state to the prior evolving present state using the state component (e.g., col.9: 18-58; col.10: 3-29; col.7: 14-26); and

the program including a method for locating a value updated during the prior evolving present state and not present in the second frame by following a back pointer from the second frame to the first frame, reading location value from the first

frame and storing the location value in the second frame (e.g., col.6: 32-45; col.7: 14-26; col.8: 16-54).

Claim 10:

The rejection of claim 8 is incorporated. also discloses *the state component includes a fork method for maintaining state for a thread spawned by the program and a forked representation of state changes made by the spawned thread of the program (e.g., col.3: 46 – col.4: 28; col.4: 62 – col.5: 38).*

Claim 11:

The rejection of claim 10 is incorporated. also discloses *the state component includes a join method for joining state changes made by the forked thread back into state changes of the subsequent representation (e.g., col.4: 46-62; col.7: 51 – col.8: 54).*

Claim 17:

Claim 17 is a computer readable storage medium version, which recites the same limitations as those of claim 7, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the references teach all of the limitations of the above claim, they also teach all of the limitations of claim 17.

Claim 19:

Eidt discloses *a computerized method comprising:*

receiving a request from a method, which takes as a parameter a state object, to create a saved state of an executing model (e.g., col.7: 52 – col.8: 26)

saving a first representation of a state of the executing model as a first state frame (e.g., col.8; 3-43)

saving a first representation of the state frame as the state object (e.g., col.8: 55 - col.9: 4)

creating a blank state frame with a backward link to the first state frame as a second state frame (e.g., col.6: 32-45; col.7: 14-26; col.7: 16-54);

maintaining, in the second state frame, a second representation of state changes made by the executing model after the first representation as the state changes occur (e.g., col.7: 14-26; col.8: 15-56; col.10: 3-23) and

reinstating the executing model state to the state of the first representation using the state (e.g., col.9: 18-58; col.10: 3-29; col.7: 14-26).

Claim 30 (new):

The rejection of claim 3 is incorporated. discloses *the data structure further comprises a fifth state frame with a pointer to the fourth state frame, wherein the fourth state frame further comprises a reference pointer with a value indicating how many frames point back to it, and wherein if the value of the reference pointer is one, then the executing program combines the fourth state frame with the fifth state frame (e.g., col.4: 29-46; col.7: 51 – col.8: 54).*

Claim 31 (new):

The rejection of claim 3 is incorporated. discloses *the fourth state frame includes a pointer to the third state frame (e.g., col.4: 62 – col.5: 38; col.8: 16 – col.9: 4).*

Claim 32 (new):

The rejection of claim 7 is incorporated. discloses *writing the value of the variable in a cache in the current state frame (e.g., col.3: 46 – col.4: 28; col.6: 32 – col.7: 50).*

Claim 33 (new):

The rejection of claim 7 is incorporated. discloses *a threshold size wherein when the cache is greater than the threshold size, the cache is purged (e.g., col.4: 46-62; col.10: 30 – col.11: 21).*

Claim 34 (new):

The rejection of claim 32 is incorporated. discloses *a threshold size wherein when the cache is greater than the threshold size, the last used variable is overwritten* (e.g., col.4: 29-46; col.6: 32 – col.7: 50).

Claim 35 (new):

The rejection of claim 19 is incorporated. discloses *a fork method which saves state of the executing program as a first state frame when invoked with the state object; a set method which sets the state of the executing program to the first state when invoked with the state object; and a join method which joins the current state of the executing program with the first state when invoked with the state object* (e.g., col.3: 46 – col.4: 28; col.4: 46-62; col.7: 51 – col.8: 54).

Claim 36 (new):

The rejection of claim 19 is incorporated. discloses *wherein the first frame and the second frame have a creation order* (e.g., col.4: 62 – col.5: 38; col.8: 16 – col.9: 4).

Claim 37 (new):

The rejection of claim 36 is incorporated. discloses *when a variable is accessed by the executing odder, checking the state frames in opposite order to their creation order until an update for the variable is found* (e.g., col.7: 14-26; col.10: 30 – col.11: 21).

Conclusion

11. Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone/fax numbers are (571) 272 8570 and (571) 273 8570, respectively. The examiner can normally be reached on every Tuesday, Thursday, and Friday from 6:00AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T. Dao



TUAN DAM
SUPERVISORY PATENT EXAMINER